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COMPUTERS ARE HUMANS: ON CONCEPTUAL METAPHORS IN THE SEMANTIC FIELD OF COMPUTERS AND THE INTERNET IN POLISH

The aim of the paper is to explore metaphorical expressions used in informal Polish in the area of computers and the Internet. The study is based on a corpus, compiled and analyzed by the present author; the corpus consists of short informal texts (entries) taken from Polish Internet message boards devoted to computers and the Internet. Altogether, the corpus comprises around 1,500,000 words. The metaphors found in the corpus will be discussed within the cognitive framework. Special attention will be devoted to one of the most frequent conceptual metaphors found in the corpus, namely COMPUTERS ARE HUMANS, or, to be more precise, BADLY WORKING COMPUTER IS A SICK PERSON. Some place will also be devoted to the influence of English on metaphorical expressions (in the domain of computers and the Internet) in Polish.

Keywords: conceptual metaphors, corpus linguistics, borrowings, Internet forums, the language of computer users

1. Introduction. The language of computer users

The aim of the present paper is twofold: first, it aims at investigating metaphorical expressions used in informal Polish in the area of computers and the Internet. Second, its purpose is to determine to what extent the conceptual metaphors (in the area of computers) in Polish are shaped by (or even directly copied from) English.

An initial thought should be given to the status of the language of computer users, be it Polish or English. The main question here is whether such a language can be termed a jargon. Definitions of the term stress the specialized contexts in which jargons are used, cf. e.g. Holmes, who sees it as a kind of language

“which a group of specialists often develop to talk about their speciality” (Holmes 2013: 262); in addition, the use of special vocabulary is underlined as its most characteristic feature, cf. e.g. Yule (2006: 211), who defines it in connection with “specialized vocabulary used by those inside established social groups, often defined by professional status” (Yule 2006: 211) or Bussmann (1998: 607), in whose view it is understood as “language which is inaccessible to non-specialists”, adding that it “entails an extended and terminologically normalized vocabulary”.¹

At first sight, the language of computer users matches the above definitions. The closer inspection reveals, however, that it is quite different from the language of, say, lawyers (legal jargon) or medical doctors (medical jargon), for it is much more widespread. The medical jargon, for example, is accessible only to medical doctors. The language of computer users, by contrast, functions in a different way: nowadays more and more people have access to a computer; they use it either as a hobby or work (or both). Thus the language of computer users penetrates into a general language and is also used by very occasional computer users (for more on this, including a discussion of computer-related language as a possible social variety, cf. Zabawa 2017: 112-113). Consequently, the language of computer users is not a typical jargon; rather, it is located somewhere between a general and a specialized language.

Naturally, such a language is not homogenous. As for its formality, three main groups can be distinguished:

- Official (formal) language, used e.g. in computer software, instruction manuals, articles in the press and magazines devoted to computers, etc. This variety is used mostly by specialists (when speaking or writing to non-specialists).
- Unofficial (informal) language, used e.g. in the informal conversations on computers, in Internet message boards devoted to computers, etc. In general, this variety can be seen as a kind of much less specialized computerese, used especially by non-specialists.
- Informal, but at the same time technical, language (computerese), used either by computer professionals, such as programmers, graphic designers, etc., or computer hobbyists, such as hackers. This is the only type which can perhaps be described as jargon, since it is normally completely not understandable by outsiders.

The present paper concentrates on the second type, i.e. informal language. It changes and develops very rapidly, as new inventions, devices, computer viruses, antivirus software, etc., are constantly produced; simultaneously, new names are introduced into English. Other languages, including Polish, frequently borrow English constructions, either in a form of direct loanwords or, sometimes in connection with purist tendencies (though this is by no means a necessary condition), semantic loans or loan translations.

¹ It must be added, however, that the term jargon is far from fully unambiguous: for a different understanding, cf. e.g. Romaine (2000: 191), who sees it as a variety of language with “a minimal linguistic system” used for communicating “in limited situations between speakers of different languages”.

The informal language of computer users can also be characterized by a constant intralingual flow of vocabulary. Such a flow can be described as bidirectional: on the one hand, vocabulary from a general language is transferred to a more specialized language; new meanings are then assigned, cf. e.g. such words as *mouse* (traditional meaning: ‘an animal’, new meaning: ‘a computer device’) or *window* (traditional meaning: ‘an opening in a wall of a building’, new meaning: ‘a frame on a computer screen’). Other examples of this kind include e.g. *file*, *library* or *gate*. On the other hand, the reverse direction is also well documented, i.e. words penetrating from a specialized into a more general language. In other words, words once known to a certain group of people only, e.g. computer specialists, are now becoming used more and more commonly by the people without any formal training or interest in computing. For example, one could mention such constructions as *antivirus software*, *scanner* or *laser printer*. Naturally, the same processes can be seen in Polish.

2. Metaphor: general remarks

In traditional understanding, metaphor is seen as a literary device; a metaphorical construction is thus connected with “a nonstandard meaning used for its literary effect” (Coulson 2005: 32). The paper, however, is set within the cognitive understanding (Lakoff and Johnson 1980). The cognitive understanding is centred around a conceptual domain (defined as “any coherent organization of experience”, Kövecses 2010: 4), or, to be more, precise, two domains: the source (vehicle) one and the target (topic) domain. Metaphor, along the cognitive lines, can then be understood as “reference to one domain with vocabulary more commonly associated with another domain” (Coulson 2005: 32), and thus “understanding one conceptual domain in terms of another conceptual domain” (Kövecses 2010: 4).

Metaphor, in general, is very frequent in specialized discourse, e.g. in political (Chilton 2005), medical (Divasson and León 2005), religious (Kuczok 2010) or business and advertising language (Drożdż 2012). As the present paper demonstrates, it is frequently used in the language of computer science as well. Metaphors are used therein for a variety of purposes; it is possible to distinguish between their three main functions: emotional, humorous, and explanatory. All of them, however, are closely related and it is often not possible to make a clear borderline between them.

As is frequently claimed in the literature, the target domain is usually a more abstract concept, while the source domain is usually a more concrete concept. For example, economy can be given as a common target domain and plant as a common source domain. Thus, the following sentence may illustrate the use of the metaphor: *the growth of the economy*, the metaphor being ECONOMY IS A PLANT (Kövecses 2010: 25).

Some criticism is in order, however. For a critical approach, cf. Szwedek (2011), who claims, among others, that the linguists studying conceptual metaphors do not really explain what is actually meant by more concrete or more abstract domains. What is more, concreteness or abstractness cannot be easily measured. For instance, he argues that the frequently quoted metaphor LIFE IS A JOURNEY is usually described as concrete-to-abstract, whereas both components are actually abstract (Szwedek 2011: 342). In much the same way, in the metaphor discussed in the present paper, COMPUTERS ARE HUMANS, both components appear to be concrete. Thus, it seems that it is actually possible that both components are abstract or both are concrete. The problem will be mentioned again, in connection with the present analysis, in Section 6.

3. Metaphor in the language of computer users

As was mentioned in the previous section, metaphors are very frequent in a specialized language. The language describing computers and the Internet is no exception here. For example, one could mention figurative constructions related to the office (e.g. *account, desktop, document, file, folder, mail, library*), items of furniture or buildings in general (e.g. *window, door, dustbin*) or water (e.g. *computer piracy, surfing the Internet, communication channels*; Goban-Klas 2002: 42-44; Zabawa 2017: 88-95). The constructions centred on human relations, used metaphorically, are also very frequent, cf. e.g. *motherboard, parent directory, father file, residents, coresidents, master-slave*; the same could be said about expressions based on anthropomorphization and personification (computers can be *dumb, smart, intelligent, idle*; they can *learn, ignore, know* and even *die*) (Stalhåmmar 2001: 118-119).

Metaphors in the semantic field of computers can generally be subdivided into two groups, the criterion being the base of metaphorical comparison: they are either based on external likeness (the objects are physically similar, e.g. *keys, keyboard*: first, the words were used with reference to a piano, then a typewriter, and finally a computer) or functional likeness (based on the similarity in behaviour or performed function, e.g. *virus*: both the biological and computer viruses multiply, spread and infect humans or machines) (Stalhåmmar 2001: 116; cf. also Zabawa 2017: 89). The latter, i.e. based on the similarity in function, appear much more frequently (Zabawa 2017: 275).

The aim of the study, as was noted in the introduction, is to investigate metaphorical expressions used in informal Polish in the area of computers and the Internet. The study is based on a corpus, the description of which can be found in the next section.

4. The description of the corpus

The corpus, upon which the study is based, has been compiled and analyzed by the present author.² It consists of short informal texts (entries) taken from Polish Internet message boards devoted to computers and the Internet. The list of forums is given at the end of the paper, in the appendix section.

A sample between 20,000 and 60,000 running words has been collected from each of the forums mentioned above. Care has been taken to make the corpus as varied thematically as possible. Thus, threads on hardware (e.g. computers, motherboards, processors, graphic cards, sound cards, graphics accelerators, mouse devices, etc.), software (e.g. operating systems, word processors, computer games, etc.) and the Internet (e.g. Internet browsers, computer viruses and other malware, antivirus software, etc.) have been included. For more on the corpus and the process of its compilation, cf. Zabawa (2017: 107-116).

The entire corpus, built in the years 2011–2015, consists of 1,541,449 running words (understood orthographically, i.e. as a sequence of letters bounded by spaces); it is thus perhaps not very large, but it seems that it is large enough to highlight certain tendencies and discuss the frequency of certain constructions.

The procedure for finding metaphorical constructions was as follows: first, the texts that comprise the corpus were carefully read (in their entirety) and analyzed by the author of the study. All the metaphorical constructions were noted down; then, their frequency and contexts (concordances) were established with the help of special software dedicated to corpora (TextSTAT, version 2, developed by Matthias Hüning from Freie Universität in Berlin, <http://neon.niederlandistik.fu-berlin.de/en/textstat/>; access: 14 November 2017). Naturally, it is not possible to present all the metaphorical constructions found in the corpus; thus, only a selection is given. In many cases, the information on frequency (i.e. how many times a given form is used in the new sense in the corpus) is also provided. Each example taken from the corpus has been translated into English. In addition, equivalent English constructions are often provided; these are not corpus-based: rather, they are based on Google search.

5. Most frequent conceptual metaphors found in the corpus

5.1. Introductory remarks

The most frequent metaphors can be subsumed under three general formulas: COMPUTERS ARE HUMANS, COMPUTER PROGRAMS ARE HUMANS and COMPUTERS ARE BUILDINGS. The present paper, as the title indicates, concentrates on COMPUTER

² The corpus has been compiled primarily for the study on English semantic loans and calques in Polish; its results were published in Zabawa (2017).

ARE HUMANS metaphor (i.e. constructions based on anthropomorphization or personification). Detailed description of the metaphor in question, including examples, will be given in the subsequent subsections. As the study does not focus on the features of the language of the Internet (such as e.g. deviations from conventional linguistic norms), obvious spelling and punctuation mistakes have been corrected.

Along the COMPUTERS ARE HUMANS line, three specific metaphors appear to be the most common in the corpus:

- PARTS OF COMPUTERS ARE PARTS OF HUMAN BODY
- GOOD-WORKING COMPUTER IS A HEALTHY PERSON
- BADLY WORKING COMPUTER IS A SICK PERSON.

As for the first group (PARTS OF COMPUTERS ARE PARTS OF HUMAN BODY), many of such constructions are created already in Polish, without the influence of English. Some constructions of this type are highly informal, cf. e.g. figurative uses of the words *wnętrza* ‘entrails; intestines’ or *bebechy* ‘(very informal) guts; bowels’ (used 4 and 18 times in the figurative sense in the corpus, respectively). The numbers in square brackets indicate the number of the forum (cf. Appendix), from which a given excerpt has been taken:

- (1) *jak go włączyć? Tylko bez otwierania jego "wnętrza", bo kompletnie się na tym nie znam i pewnie bardziej zepsuję* [23]
 ‘how to turn it on? Just without opening its “intestines”, because I am not familiar with it and will probably damage it more’
- (2) *być może nie obejdzie się bez czyszczenia wnętrza laptopa* [8]
 ‘perhaps it will be necessary to clean the laptop’s intestines’
- (3) *trzeba by po kawałku podmieniać bebechy komputera, ten Dell to bieda raczej... wybrałbym Lenivego* [a play on words: *Lenovo* – *Lenivy* (from *leniwy*, ‘lazy’)] – *ma najmocniejsze bebechy* [25]
 ‘it would be necessary to replace the guts of a computer, this Dell is rather poor... I would choose Lenovo, it has the strongest guts’.

The second group (GOOD-WORKING COMPUTER IS A HEALTHY PERSON) is represented by, among others, the forms *zdrowy* or *zwinny* used in connection with computers and other devices (cf. Section 5.11).

The third one (BADLY WORKING COMPUTER IS A SICK PERSON) is connected with metaphorical expressions denoting various stages of a disease; thus the domain of living organisms (humans) is mapped onto the domain of computers.

The presentation of the metaphors corresponding to BADLY WORKING COMPUTER IS A SICK PERSON formula will be organized around various stages of a disease. Thus, metaphors connected with a cause of the disease will be presented first, followed by symptoms, treatment, etc.

5.2. The cause of a disease

In the world of computers, malfunction is frequently caused by computer viruses, just as in the human world, where human or animal diseases may be caused by biological viruses. The metaphorical expressions are thus centred around the form *wirus* ‘virus’ (used 517 times in the new sense in the corpus):

- (4) *najpierw komputer znajdował kilka wirusów, jakieś trojany itp., usunąłem je* [1]
 ‘first my computer was finding a few viruses, some Trojan horses, etc., I got rid of them’
- (5) *po zainfekowaniu kompa wirusem System Tool 2011 udało mi się go usunąć programem Malwarebytes* [1]
 ‘after infecting the computer with a virus System Tool 2011 I managed to get rid of it with Malwarebytes software’
- (6) *wiesz wydaje mi się, że masz wirusa. Skanowałeś komputer dokładnie?* [1]
 ‘you know, it seems to me that you have a virus. Have you scanned your computer thoroughly?’
- (7) *miałem ten problem w starym kompie. Miałem jednego wirusa* [1]
 ‘I had this problem in my old computer. I had one virus’.

It is interesting to note that augmentative or diminutive forms appear in the corpus as well, cf. e.g. *wir* (plural *wiry*), *wirusek* and *wirusik*. For additional discussion on the form *wirus*, cf. Zabawa (2017: 255).

The analogous constructions (cf. e.g. *my computer caught a virus*, *a computer infected with a virus*, etc.) are very frequent in English as well (cf. Google search) and it is generally agreed among linguists that the new sense of the word *wirus* in Polish is a semantic loan modelled on English *virus* (cf. e.g. Witalisz 2007: 301; 2016: 72).

In addition, it can be noticed that computer viruses are frequently personified. Thus, another metaphor (COMPUTER VIRUS IS A PERSON) is in operation here: viruses are described as *bezczelny* ‘cheeky’, *złośliwy* ‘malicious’ or *sprytny* ‘clever’ (albeit such expressions are not very frequent, as they appear in the corpus once, twice, and again once, respectively). Such constructions as *w rękach wirusa* (‘in the hands of a virus’) are also documented (used once in the corpus).

5.3. The beginning of a disease

The cause of malfunctioning has been identified; thus, the computer starts working improperly. The metaphors used here refer to the infection, as in the human world. The following constructions are used: *infekować* ‘infect’, *infekcja* ‘infection’, *zainfekowany* ‘infected’, *infekujący* ‘infecting’ (used 168 times in the new sense in the corpus altogether), *zarażony* ‘infected’, *zarażać* ‘infect, pass on’, *zarażić się* ‘pick up, catch sth’, *zakażony* ‘infected’ (used 22 times in the new sense in the corpus altogether):

- (8) *o dziwo dało radę zrobić Malwarem i avastem. Ten pierwszy wykrył bardzo wiele infekcji. Usunąłem zainfekowane pliki ale problem jest nadal, nic nie pomogło* [2]
 ‘surprisingly, it was successful with Malware and Avast. The former detected numerous infections. I deleted infected files, but the problem persists, nothing helped’
- (9) *program WOT zgłaszał już że ta witryna ma złą reputację. co powinienem teraz zrobić? Dziękuję. // Już jesteś zainfekowany*³ [4]
 ‘WOT software has already announced that this web portal has a bad reputation. What should I do now? Thank you. // You are already infected’
- (10) *oto moje wyniki z OTL, proszę o pomoc w odczytaniu bo nie znam się na tym. // Nie widzę tu żadnej infekcji, więc przyczyna mulenia jest "pozawirusowa"* [5]
 ‘here are my OTL results, I am looking for help as I am not familiar with it. // I do not see any infection here, so the reason of the computer working slowly is not virus-related’
- (11) *bez problemu przeskanujesz swój komputer, bez obaw dla Linuksa nie ma wirusów więc w czasie skanowania nie ma szans aby coś się "zaraziło"* [4]
 ‘you will scan your computer without any problems; there are no viruses for Linux so there is no chance that something may get infected during scanning’
- (12) *najpewniejszym sposobem jest wypalenie na innym komputerze bootowalnej płytki z Kaspersky Rescue Disk 10 i potem użycie jej na zarażonym komputerze przed startem systemu* [5]
 ‘the safest solution is to burn a bootable Kaspersky Rescue Disk 10 disc using a different computer and then use it on an infected computer before starting the system’.

It must be underlined that sometimes the infection does not relate to the entire computer, in the same way as the human infection may affect only one of body organs. Thus, another metaphor is here in operation. This may relate both to hardware (Examples 13-16; created along the formula PARTS OF COMPUTERS ARE PARTS OF HUMAN BODY) and software or websites (Examples 17-19; the metaphor here is COMPUTER PROGRAMS ARE HUMAN ORGANS and WEBSITES ARE HUMAN ORGANS):

- (13) *pendrive’a mam zainfekowanego* [3]
 ‘I have an infected memory stick’
- (14) *nie jestem zbyt dobry aby sam sobie poradzić z usunięciem tak dużej infekcji dysku* [4]
 ‘I am not good enough to manage to get rid of such a big infection of a disk’
- (15) *USBFix niczego na penie nie zarazi* [5]
 ‘USBFix will not infect anything on a memory stick’

³ The // symbol indicates a new entry (written by a different forum user).

- (16) *wejdź na swoje konto z urządzenia co do którego masz pewność że nie zostało zakażone i zmień hasło do konta* [16]
 ‘access your account using a device that is certainly not infected and change the password to your account’
- (17) *ten problem może dotyczyć systemu operacyjnego. Albo zainfekowany i walczysz z tym* [2]
 ‘this problem may be connected with the operating system. It may be infected and you fight with that’
- (18) *usunąłem za pomocą MBAM zarażone pliki* [5]
 ‘I deleted the infected files with the help of MBAM’
- (19) *zabezpieczyć się przed groźbami z zakażonych witryn internetowych* [15]
 ‘to protect oneself from threats from infected websites’.

The constructions of this type are very frequent in English as well, cf. Google search for such constructions as *the memory stick is infected*, *the hard disk is infected*, *the system is infected*, *infected file*, etc., which suggests that English constructions might have influenced the emergence of the word *infekować* in the new sense in Polish. For additional discussion on the form *infekcja*, cf. Zabawa (2017: 184-185).

5.4. The symptoms of a disease

After the infection, symptoms of a disease (or malfunctioning in the case of computers) may appear. Thus, the word *boleć* (‘to hurt’) is used with reference to computers. The word in the new sense appears five times in the corpus; two examples are provided below:

- (20) *a jest jakiś sposób żeby to [twardy dysk] naprawić i sprawdzić co go boli* [1]
 ‘and is there any method to fix it [a hard disk] and check what’s hurting it’
- (21) *podłącz by zdiagnozować co boli twojego kompa* [27]
 ‘attach [it] so as to diagnose what hurts your computer’.

5.5. The disease in full swing

The next stage is connected with the development of a disease (malfunctioning); it is now in its full swing. Thus, the word *chory* (‘sick, ill’) may appear. This usage is, however, not very frequent (two occurrences in the corpus):

- (22) *komp piszczał jak jakiś chory* [3]
 ‘the computer was squeaking as somebody sick’
- (23) *inny “chory” Windows* [4]
 ‘another “sick” Windows’.

Occasionally (cf. Example 23) the construction in question is used in quotation marks, which may suggest that it is felt, even by the authors, as figurative or somehow out of place.

The constructions of this type are very frequently used in English as well, cf. e.g. *my computer is sick* or *what to do if you have a sick computer* (cf. Google search).

5.6. The diagnosis of a disease

The disease, prior to any attempts at curing, must naturally be diagnosed; thus the words *diagnostyka* ('diagnostics') (used 54 times in the new sense in the corpus), *diagnoza* ('diagnosis') and *diagnozować* ('to diagnose') (used 41 times in the new senses in the corpus altogether) are used. Again, the words may refer to a computer as a whole (as in the case of humans, where the word may refer to an entire organism) or to its specific parts (thus again employing the metaphor PARTS OF COMPUTERS ARE ORGANS OF HUMAN BODY):

- (24) *diagnostyka pamięci* [2]
'memory diagnostics'
- (25) *w BIOS'ie zrobiłem diagnostykę HDD Self-Test Options* [3]
'in BIOS I did the HDD Self-Test Options diagnostics'
- (26) *w jakiś sposób diagnozować moją kartę graficzną* [8]
'diagnose somehow my graphics card'
- (27) *użyj narzędzia sxstrace.exe, aby uzyskać szczegółową diagnozę* [2]
'use sxstrace.exe tool to get a detailed diagnosis'.

The constructions of this type appear frequently in English as well, cf. e.g. *computer diagnostic tool*, *diagnostic software*, *hard drive diagnostics*, *how to diagnose a computer problem*, etc. (cf. Google search). Additional discussion on the forms *diagnostyka* and *diagnoza* can be found in Zabawa (2017: 168-169).

5.7. The quarantine

After the diagnosis, it is occasionally necessary, when a disease turns out to be infectious, to perform the quarantine, i.e. to separate an infected organism (or, in the case of computers, a file) from the healthy, uninfected ones; for this, the word *kwarantanna* 'quarantine' is used (the form appears 49 times in the new sense in the corpus):

- (28) *nie było opcji "napraw", a jedynie kwarantanna, usuń, lub pomiń* [5]
'there was no option "repair", just quarantine, delete or skip'
- (29) *przenosiłem pliki do kwarantanny* [5]
'I was transferring the files to quarantine'.

The new usage of the form *kwarantanna* has most probably been modelled on English, cf. such constructions as *files put in quarantine*, *quarantined files*, *quarantine the file*, etc. Additional discussion on the form *kwarantanna* can be found in Zabawa (2017: 205).

5.8. Attempts at curing

After the stages described in the previous sections, attempts can be made at curing the situation. Thus the word *antywirus* ‘antivirus software’ (the form, together with the less formal construction *antywir*, appears 618 times in the corpus) is used. Interestingly enough, in Polish the form *przeciwwirusowy* (lit. ‘against-virus’, English *antiviral*) is normally used in connection with living organisms. Thus, the form *antywirus* is most probably a literal translation of the English form *antivirus*:

- (30) *jaki darmowy antywirus polećcie mi* [5]
 ‘which free antivirus program can you recommend’
- (31) *od tej pory testuję różne antywirusy co jakiś czas* [5]
 ‘since then I have been testing various antivirus programs from time to time’
- (32) *jeśli chcesz się bawić w comiesięczne zmienianie antywira* [5]
 ‘if you want to bother and change the antivirus program every month’.

In addition, the form *doktor* ‘a medical doctor’ is occasionally used for antivirus (used once in the corpus):

- (33) *przeskanowałem kompa tym doktorem i wygląda na to, że usunąłem wszystkie wirusy* [5]
 ‘I scanned the computer with this doctor and it seems that I erased all the viruses’.

5.9. The process of healing

After the antivirus has been used, the process of healing is usually in order. The words *leczyć* and *uzdrowić* ‘cure, heal’ (used 26 times and once, respectively) are used, both with reference to the computer as a whole or to separate files:

- (34) *znalazł się jeden wirus, którego od razu wyleczyłam* [2]
 ‘one virus was found, and I immediately cured it’
- (35) *wiecie jak całkowicie wyleczyć kompa?* [5]
 ‘do you know how to cure the computer completely?’

- (36) *plik systemowy jest zawirusowany (antywir AVG), lecz nie dam rady go usunąć, ani wyleczyć* [5]
 ‘the system file is full of viruses (AVG antivirus program), but I cannot delete or cure it’
- (37) *obecnie działa, ale coś mi się wydaje, że jej [myszy komputerowej] dni i tak są policzone. Takie cudowne uzdrowienie nie może trwać wiecznie więc profilaktycznie i tak zamówię X748* [13]
 ‘currently it is working but it seems to me that its [of a computer mouse] days are numbered. Such a miraculous restoration to health cannot last forever so I will order X748 anyway’.

The equivalent constructions are used frequently in English, cf. e.g. *files which require healing*, *Quick Heal AntiVirus* [a proper name of antivirus software], etc. For additional discussion on the form *leczyć*, cf. Zabawa (2017: 206).

5.10. Transplantations

Attempts at curing the situation may also involve transplantations; thus, the use of the word *przeszczepić* ‘to transplant’ is also documented (used twice in the corpus):

- (38) *da się jakoś przeszczepić tamtą kartę do mojego kompa* [1]
 ‘it is possible to somehow transplant that card to my computer’
- (39) *jeżeli obie to integry to nic nie przeszczepisz niestety* [1]
 ‘if both of them are integrated then unfortunately you will not transplant anything’.

The constructions of this type are frequent in English as well, cf. e.g. *transplant motherboard* or *sound card transplantation* (cf. Google search).

Again, the metaphor COMPUTER PARTS ARE HUMAN ORGANS is in use: for instance, graphic or sound card can be moved and installed in a new computer, which resembles the situation when e.g. a kidney or a liver is transplanted to a new organism. For additional discussion on the form *przeszczepić*, cf. Zabawa (2017: 232).

5.11. The end of a disease

Finally, the computer can be brought up to a satisfactory condition again, in much the same way as a human being can recover and be healthy. Thus, the form *zdrowy* ‘healthy’ is used, mostly with reference to separate parts of a computer, either hardware, e.g. hard disk, or software, e.g. files. The word *zdrowy* appears 10 times in the new sense in the corpus; some examples are provided below:

- (40) *wgranie nowego systemu ze sprawdzonej zdrowej kopii* [5]
 ‘installing a new system from a healthy copy’

- (41) *ze skanu wynika, że dysk jest zupełnie zdrowy* [3]
 ‘the scan shows that the disk is completely healthy’.

Another word used with reference to a good-working computer is *zwinny* ‘agile’. This, however, is a rare use and is most probably idiosyncratic (appearing only once in the corpus):

- (42) *komputer jakby cudem stał się zwinny* [5]
 ‘the computer became agile as if by miracle’.

5.12. Death

Occasionally, the process of healing is not successful and the result is death (i.e. the situation when a computer is permanently damaged and cannot be repaired). The use of the words *martwy* ‘dead’, *trup* ‘corpse’, *umrzeć* ‘die’ and *zdechnąć, zdychać* ‘die (used normally with reference to animals, offensive when used with reference to humans)’ is also documented (used 8, 4, 6 and 8 times in the new sense in the corpus, respectively):

- (43) *plyta główna by dawała znak, że jest “martwa”* [8]
 ‘the motherboard would give a sign that it is “dead”’
 (44) *i ten komp ma nie być tylko do gier ale też żeby mi za te 4 lata nie zdechl* [3]
 ‘and this computer should not be just for games but it should not die after 4 years’
 (45) *dysk trup, gdyż 1000 sektorów jest niemożliwych do odczytania* [3]
 ‘the disk is dead [lit. is a corpse] because 1000 sectors cannot be read’
 (46) *dziś wzięłam telefon do ręki i wyskoczyła informacja, że karta została uszkodzona i coś tam coś tam. Telefon jej nie widzi, komputer jej nie widzi, umarła* :/[22]
 ‘today I took my phone and the information popped out that the card has been damaged or something. The phone does not see it, it is dead :/’.

Again, cf. Example 43, quotation marks are used, which may suggest that the use of the construction may be felt as figurative or not fully appropriate in a given context.

In much the same way, the end of functioning of a given computer can be, and is, expressed in English: *the computer is dead*, *the death of your PC*, etc. (cf. Google search).

5.13. Other metaphors

Within the metaphor COMPUTERS ARE HUMANS other constructions can also be found. For instance, one could mention *goły* ‘naked’, used to describe a computer without an operating system, *kastrat* ‘castrate’, used to describe

a computer or a piece of hardware (a graphics card) that performs badly, *staruszek* ‘old man’, used to describe an old computer which still functions well and its user feels certain affection towards it, or *hibernacja* ‘hibernation’, used to describe a situation when a computer is switched off but its current state, open programs, etc., are saved.

Additionally, there are numerous figurative expressions based on personification, but not directly related to viruses and diseases. Computers and computer programs can be described with the use of various adjectives, traditionally used only with reference to humans or animals, e.g. about computer programs: *mądry* ‘wise’, *myślący* ‘intelligent’ or *złośliwy* ‘malicious’, about antivirus software: *wrażliwy* ‘sensitive’, i.e. reacting to many kinds of computer viruses, *lekki* ‘light’, i.e. using little computer resources (e.g. system memory), not slowing the computer down (the opposite, i.e. *ciężki* ‘heavy’, is also documented).

The metaphorical expressions subsumed under the heading COMPUTERS ARE HUMANS appear to be the most frequent (an observation on the basis of the present corpus). However, other metaphors can be detected as well, cf. e.g. COMPUTERS ARE BUILDINGS (*belka* ‘lit. beam, bar’, i.e. toolbar), INTERNET IS A BUILDING (*bramka* ‘gate’), COMPUTERS ARE CLOTHES (*kieszka* ‘lit. pocket’, i.e. the place for a CD/DVD drive), COMPUTER PROGRAMS ARE CLOTHES (*łata* ‘patch’, i.e. a small program used for correcting bugs in another program), COMPUTER VIRUSES ARE ANIMALS (*kameleon* ‘chameleon’, i.e. a virus that pretends to be a harmless program or process, *szkodnik* ‘pest’, i.e. a computer virus). For detailed discussion of some of such constructions, cf. Zabawa (2017).

6. Conclusions

Metaphors appear to be frequent in the language of computer users. As was mentioned in Section 2, three main functions of them can be singled out: emotional, humorous and explanatory.

Metaphors very frequently reveal certain affection of computer users towards their machines. The users tend to refer to their computers as if they were members of their family; thus, computers may get sick, are cured, can be healthy or dead. The usage of such constructions (normally used with reference to humans) may be both for emotional and humorous purposes. The most important function, however, is the third one: many users, while describing problems with a computer, do not possess specialist knowledge and, what is closely interrelated, vocabulary. Thus, the use of the constructions normally associated with humans, even though some of them may not be very precise (e.g. *chory*, *zdrowy*, *leczyć* ‘sick/ill, healthy, to heal’), appears to be the only possibility for them to verbalize the problem. The metaphor COMPUTERS ARE HUMANS well illustrates such tendencies.

The metaphor COMPUTERS ARE HUMANS at first glance does not seem to conform to the usual concrete-to-abstract pattern (cf. Section 1); instead, both domains (computers and humans) may appear equally concrete. However, it could be claimed that the domain of humans is actually more concrete (in comparison with the domain of computers) in the sense that quite frequently a person may know more about his/her body (in terms of its basic functions, structure, etc.) than about, say, the structure of computers. Naturally, the knowledge (both about the human body and about computers) is understood here as the everyday popular knowledge, and not the specialist one. Thus, the notions of concreteness and abstractness (of humans and of computers) are connected here with the everyday knowledge about them; from this perspective, it can be claimed that, at least in some cases and for some people, computers are more abstract whereas humans are more concrete.

Many of the metaphorical constructions found in the corpus can be found in English as well (cf. the examples given in the paper on the basis of Google search). The question that appears, and was asked in the introduction (cf. Section 1), is thus connected with a degree of the English influence upon Polish. Undoubtedly, many of the constructions in the semantic field of computers and the Internet used in Polish are either directly borrowed from English (lexical borrowings) or indirectly shaped on it (semantic borrowings and loan translations) (for details, cf. Zabawa 2014, 2017). Thus, many figurative expressions are most probably modelled on English (cf. e.g. such constructions as *przenosić pliki do kwarantanny* or *przeszczepić kartę dźwiękową*, English *put files in quarantine* and *sound card transplantation*). In some cases, however, the picture is less clear: for instance, one may consider the construction *mój computer jest chory*. The equivalent English construction (*my computer is sick*) does exist (cf. Google search); it would seem not very probable, however, that the Polish construction is a loan translation of English *my computer is sick*. Rather, what was borrowed was the new meaning (related to computers) of the word *wirus* (from English *virus*) and then the entire system of related terms was created in both Polish and English (Polish *wirus – infekcja – choroba – chory – leczenie – zdrowy*, English *virus – infection – disease – sick/ill – treatment – healthy*). It is difficult, if not impossible, to determine if the new meanings appeared independently in Polish and English. On the one hand, it would seem that the tendency to personify computers and describe them with the use of the constructions normally used with reference to humans can be seen as universal. Besides, there are certain areas in which the lack of one-to-one correspondence between English and Polish can be seen: for instance, both *infekować* and *zarażać* correspond to English *infect*, which may suggest that not in all the cases are the Polish constructions to be seen as English loan translations or semantic loans. On the other hand, however, there is often a striking similarity between Polish and English, which seems to suggest that, in some cases at least, English has probably functioned as an intensifying force, if not a direct cause.

The use of metaphors in the language of computer users is a frequent phenomenon, widespread and relatively easily detected. On the one hand, they may be seen as an instance of oversimplification of the language describing computers, as they lack precision; on the other hand, the use of metaphors makes it possible to discuss issues connected with computers even for the people without much specialist knowledge in the field. The explanatory function of metaphors is thus primary here; on the whole, therefore, it can be claimed that metaphors can introduce people without much specialist knowledge to the world of computers and the Internet.

Appendix: List of forums

The appendix provides the list of forums, from which the entries that compose the corpus have been selected (access to websites: 14 November 2017):

- [1] *Forum Bajt* (<http://forumbajt.pl/forum.php>)
- [2] *Forum Komputerowe PL* (<http://forumkomputerowe.pl>)
- [3] *Forum PC* (<http://www.forumpc.pl>)
- [4] *Forum Fast PC* (<http://www.fastpc.pl>)
- [5] *Forum Tweaks* (<http://www.forum.tweaks.pl>)
- [6] *Forum PC Lab* (<http://forum.pclab.pl>)
- [7] *Forum PC Foster* (<http://forum.pcfoster.pl>)
- [8] *Forum portalu PCcom.pl* (<http://pc-com.pl/forum>)
- [9] *Forum komputerowe HotFix* (<http://forum.hotfix.pl>)
- [10] *Forum PCSH* (<http://www.pcsh.pl>)
- [11] *Forum dyskusyjne Programosy* (<http://forum.programosy.pl>)
- [12] *Forum Pure PC* (<http://forum.purepc.pl>)
- [13] *Forum komputerowe Pececik* (<http://pececik.com/forum>)
- [14] *Forum ITPC* (<http://forum.itpc.net.pl>)
- [15] *Forum Komputerowe Haker* (<http://haker.com.pl>)
- [16] *PC Format forum* (<http://forum.pcformat.pl>)
- [17] *Forum komputerowe Komputer Świat* (<http://forum.komputerswiat.pl>)
- [18] *Forum Pecetowiec* (<http://pecetowiec.pl/index.php>)
- [19] *Forum Benchmark* (<http://forum.benchmark.pl>)
- [20] *PC Forum* (<http://forum.pcforum.eu>)
- [21] *Forum informatyczne WebElite* (<http://www.webelite.pl>)
- [22] *Gazeta.pl Forum – Komputer* (<http://forum.gazeta.pl/forum/f,34,Komputer.html>)
- [23] *Forum Komputerowe Katalogi.pl* (<http://katalogi.pl/forum/4-forum-komputerowe>)
- [24] *Lista dyskusyjna pl.comp.bazy-danych* (<http://groups.google.com/forum/#!forum/pl.comp.bazy-danych>)
- [25] *Forum Komputerowe PC Centre* (<http://forum.pccentre.pl>)

- [26] *Pomoc PC* (<http://www.pomoc-pc.com>)
- [27] *Forum Komputerowe.com* (<http://forumkomputerowe.com>)
- [28] *PC Mod* (<http://www.pcmmod.pl>)
- [29] *Forum Komputerowe Guru PC* (<http://www.gurupc.pl>)
- [30] *Forum o grach komputerowych* (<http://www.giermania.fora.pl>)
- [31] *Game 4 Fun* (<http://game4fun.pl>)
- [32] *Playofgame.pl* (<http://playofgame.pl/forum.php>)

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